

PROJECT DESCRIPTION  
GENERAL

THIS PROJECT INVOLVES THE RECONSTRUCTION OF THE EXISTING TRAFFIC SIGNAL AT THE INTERSECTION OF MD 99 (OLD FREDERICK ROAD) AT ST. JOHN'S LANE/ENTRANCE TO MT. HEBRON HIGH SCHOOL IN HOWARD COUNTY.

INTERSECTION OPERATION

A CONTROLLER HOUSED IN A BASE MOUNTED CABINET SHALL BE INSTALLED AT THIS LOCATION. THE INTERSECTION WILL OPERATE IN A FULLY ACTUATED MODE USING 6 NEMA PHASES. THERE WILL BE AN EXCLUSIVE/PERMISSIVE LEFT TURN PHASE FOR THE EAST AND WESTBOUND MOVEMENTS OF MD 99. THE MD 99 THROUGH MOVEMENTS WILL OPERATE CONCURRENTLY. THE ST. JOHN'S LANE/ENTRANCE TO MT. HEBRON HIGH SCHOOL MOVEMENTS WILL OPERATE AS A SIDE STREET SPLIT OPERATION WITH AN ACTUATED PEDESTRIAN MOVEMENT ACROSS THE WEST LEG OF THE INTERSECTION.

SPECIAL NOTES

1. THE FOLLOWING CONTACT PERSONS FOR THIS PROJECT ARE AS FOLLOWS:

PROJECT CONTACTS:

MR. JOHN CONCANNON, ASSISTANT DISTRICT ENGINEER - TRAFFIC  
PHONE: (301) 624-8140  
MR. JOHN HUCHROWSKI, ASSISTANT DISTRICT ENGINEER - CONSTRUCTION  
PHONE: (301) 624-8200  
MR. RAYMOND F. JOHNSON, ASSISTANT DISTRICT ENGINEER - MAINTENANCE  
PHONE: (301) 624-8105  
MS. ANDREA ABEND, UTILITY ENGINEER  
PHONE: (301) 624-8115  
MR. RICHARD L. DAFF, SR. CHIEF TRAFFIC OPERATIONS DIVISION  
PHONE: (410) 787-7630  
MR. EDWARD RODENHIZER, SUPERVISOR, SIGNAL OPERATIONS  
PHONE: (410) 787-7652

THE POWER COMPANY REPRESENTATIVE IS:  
BALTIMORE GAS & ELECTRIC  
7317 PARKWAY DRIVE SOUTH  
HANDOVER, MD 21076  
MR. DON ANACKER 410-859-9073  
WMS# 1639573

2. APS WILL FUNCTION AS FOLLOWS:

- FOR MD 99 (OLD FREDERICK RD)  
A. WHEN PEDESTRIAN LOCATES AND PRESSES PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON UNIT MESSAGE WILL BE "WAIT TO CROSS OLD FREDERICK AT ST. JOHN'S".  
B. WHEN WALK PHASE BEGINS, THE AUDIBLE SOUND WILL BE A RAPID TICK, WHICH WILL LAST FOR THE DURATION OF THE WALK PHASE.

3. THE CONTRACTOR SHALL NOTIFY MR. ROBERT SNYDER OF SHA AT 410-787-7635 TO ARRANGE FOR THE PHONE DROP INSTALLATION.  
THE CONTRACTOR IS TO PROVIDE MR. SNYDER WITH THE NEAREST STREET NUMBER, ZIP CODE, AND TELEPHONE NUMBER.

EQUIPMENT LIST

- A. EQUIPMENT TO BE SUPPLIED BY THE ADMINISTRATION.  
NONE.

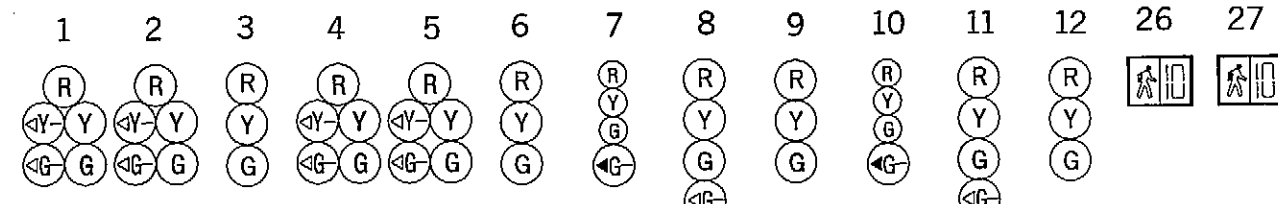
- B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY THE CONTRACTOR.

QUANTITY	UNITS	DESCRIPTION
LS	LS	MAINTENANCE OF TRAFFIC
LS	LS	MOBILIZATION
1	EA	10 FT. STEEL PEDESTAL POLE WITH BREAKAWAY BASE
3	EA	27 FT. STEEL MAST ARM POLE WITH 38 FT. MAST ARM
2	EA	27 FT. STEEL MAST ARM POLE WITH 50 FT. MAST ARM
2	EA	20 FT. LUMINARIES ARM
1	EA	250W HPS LAMP AND LUMINARIES
5	EA	STANDARD S.H.A. TRAFFIC SIGNAL CONTROLLER, BASE MOUNTED NEMA 6 CABINET, VIDEO DETECTION INTERFACE, AND (1) FOUR-CHANNEL LOOP DETECTOR AMPLIFIER
2	EA	VIDEO DETECTOR (TERRA CAMERA)
2	EA	NON-INVASIVE PROBE (SET OF 3) WITH 1000 FT. LEAD-IN CABLE
2	EA	AUDIBLE PEDESTRIAN PUSHBUTTON ASSEMBLY WITH PUSHBUTTON SIGN
1	EA	APS 2-WIRE CENTRAL CONTROL UNIT
4	EA	12 IN. 3-SECTION LED SIGNAL HEAD - MAST
2	EA	12 IN. 4-SECTION LED SIGNAL HEAD - MAST
4	EA	8 IN./12 IN. 4-SECTION LED SIGNAL HEAD - MAST
4	EA	12 IN. 5-SECTION LED SIGNAL HEAD - MAST
1	EA	16 IN. 1-SECTION, 1-WAY LED (COUNTDOWN) PEDESTRIAN SIGNAL HEAD - POLE
1	EA	16 IN. 1-SECTION, 1-WAY LED (COUNTDOWN) PEDESTRIAN SIGNAL HEAD - POST TOP
2	EA	30 IN.X 36 IN. R3-5(R) REGULATORY SIGN - MAST ARM
1	EA	30 IN.X 36 IN. R3-6(L) REGULATORY SIGN - MAST ARM
4	EA	16 IN.X VAR. D-3(1) DUAL FACED SIGN - MAST ARM
2	EA	30 IN. X 51 IN. SHIELD ASSEMBLY SIGN - POLE MOUNT
2	EA	48 IN. X 75 IN. SHIELD ASSEMBLY SIGN - POLE MOUNT
3	CY	TEST PIT EXCAVATION
9	EA	HANDHOLE
50	LF	1-CONDUCTOR CABLE (NO. 4 AWG)
310	LF	2-CONDUCTOR TRAY CABLE (NO.12 AWG)
150	LF	2-CONDUCTOR CABLE (NO. 14 AWG)
1000	LF	3-CONDUCTOR CABLE (NO. 18 AWG) (FOR VIDEO DETECTORS)
300	LF	5-CONDUCTOR CABLE (NO. 14 AWG)
1525	LF	7-CONDUCTOR CABLE (NO. 14 AWG)
400	LF	BARE COPPER GROUND WIRE (NO. 6 AWG)
85	LF	2 IN. PVC CONDUIT [SCHEDULE 80] - TRENCHED
800	LF	3 IN. PVC CONDUIT [SCHEDULE 80] - TRENCHED
160	LF	3 IN. PVC CONDUIT [SCHEDULE 80] - BORED
90	LF	4 IN. PVC CONDUIT [SCHEDULE 80] - TRENCHED
260	LF	4 IN. PVC CONDUIT [SCHEDULE 80] - BORED
14.5	CY	CONCRETE FOUNDATION FOR TRAFFIC SIGNAL EQUIPMENT
8	EA	GROUND ROD - 3/4 IN. X 10 FT. LENGTH
1	EA	CONTROL & DISTRIBUTION EQUIPMENT FOR ELECTRICAL SERVICE
300	LF	12 IN. WHITE THERMOPLASTIC PAVEMENT MARKING - CROSSWALK
140	EA	24 IN. WHITE THERMOPLASTIC PAVEMENT MARKING - STOP LINE
6	EA	REMOVE AND DISPOSE OF EXISTING CONCRETE FOUNDATION 12 INCHES BELOW GRADE
LS	LS	REMOVE AND SALVAGE OF EXISTING TRAFFIC SIGNAL EQUIPMENT

GENERAL NOTES

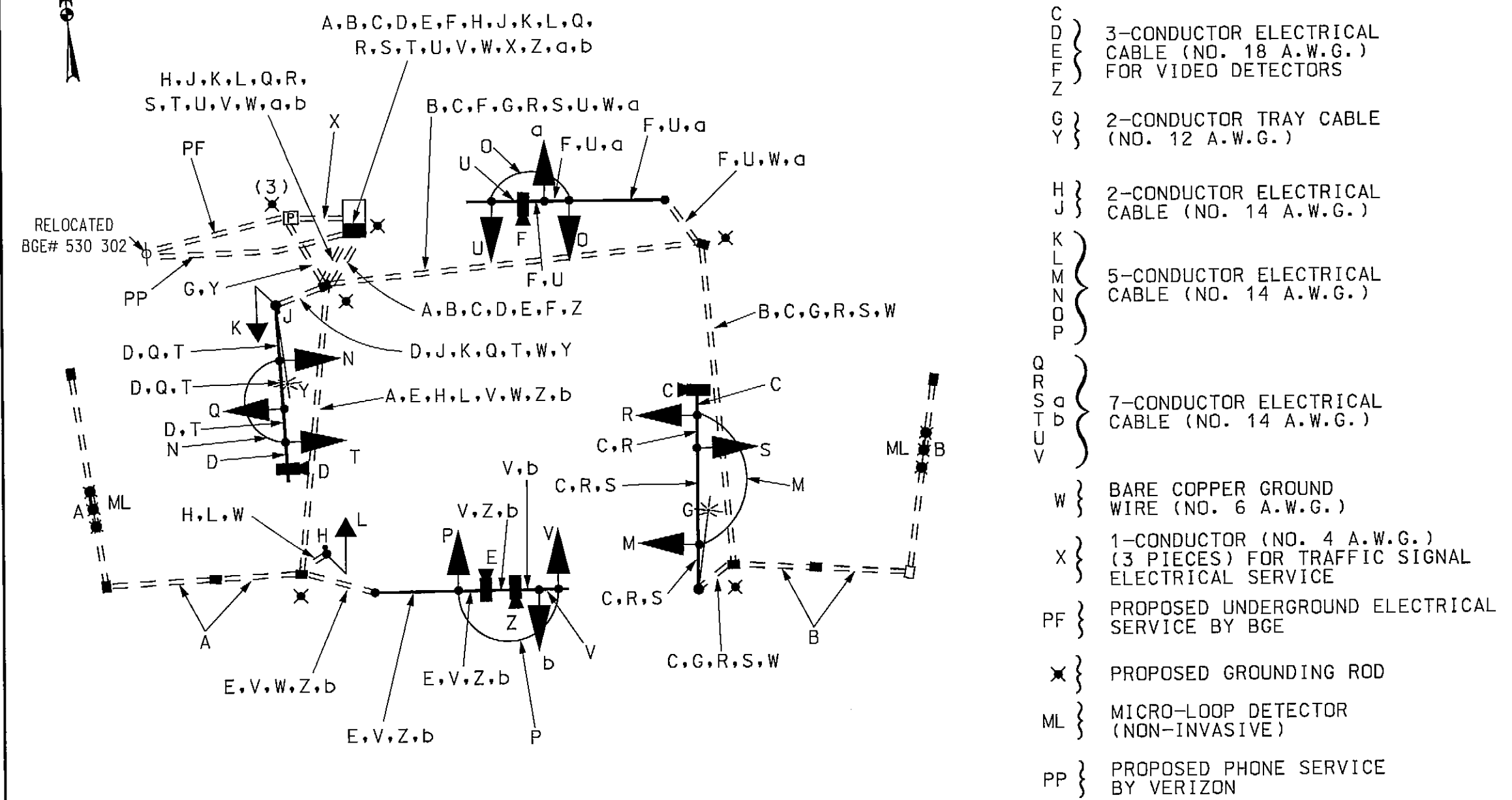
- VIDEO CAMERA LOCATION/ALIGNING SHALL BE COORDINATED WITH THE SHA ENGINEER.
- THE CONTRACTOR SHALL VERIFY ALL PROPOSED POLE AND CABINET LOCATIONS PRIOR TO INSTALLATION.
- PAVEMENT MARKINGS DETAILED ARE PROPOSED AND ARE TO BE INSTALLED BY THE CONTRACTOR IN ACCORDANCE WITH MD-SHA STANDARDS. ALL OTHER PAVEMENT MARKINGS ARE TO BE CONSIDERED AS EXISTING.
- GEOMETRICS SHALL BE CONFIRMED PRIOR TO THE INSTALLATION OF SIGNAL EQUIPMENT. ALL TRAFFIC SIGNAL FOUNDATIONS SHALL BE INSTALLED AT FINAL SIDEWALK OR CURB GRADE FOR CLOSED SECTIONS. HIGHEST ROADWAY PROFILE GRADE FOR OPEN SECTIONS, TO MEET CLEARANCES AS SPECIFIED IN MD 816.03, MD 818.01, MD 818.02, MD 818.04. THE CONTRACTOR SHALL VERIFY ULTIMATE GRADES PRIOR TO THE INSTALLATION OF ALL SIGNAL EQUIPMENT.
- ALL UNDERGROUND AND OVERHEAD UTILITIES SHOWN ON THESE PLANS ARE SCHEMATIC AND ARE NOT TO BE CONSIDERED COMPLETE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING ALL UTILITY COMPANIES PRIOR TO CONSTRUCTION SO THAT ALL UTILITIES MAY BE LOCATED IN THE FIELD. IF THE CONTRACTOR PERCEIVES THAT A CONFLICT BETWEEN THE UTILITIES AND THE TRAFFIC SIGNAL EQUIPMENT WILL OCCUR, THE CONTRACTOR SHALL NOTIFY THE APPROPRIATE PROJECT ENGINEER IMMEDIATELY.
- PUSHBUTTONS ARE TO BE LOCATED SO THAT THEY CAN BE ACTIVATED BY A PERSON IN A WHEELCHAIR REACHING LESS THAN 18 IN. FROM A 60 IN. x 60 IN. LEVEL LANDING AREA WITH A CROSS SLOPE OF LESS THAN OR EQUAL TO 2%.
- THE 10 FT. SEPARATION BETWEEN PUSHBUTTONS IS TO BE MEASURED FROM FACE OF PUSHBUTTON TO FACE OF PUSHBUTTON, NOT CENTER TO CENTER OF POLE.
- PUSHBUTTON ARROWS ARE TO BE PARALLEL TO THE CROSSING FOR WHICH THEY ARE INTENDED.
- THE LOCATION OF ACCESSIBLE PEDESTRIAN SIGNAL PUSHBUTTONS MUST MEET LOCATION REQUIREMENTS OF MUTCD SEC. 4E.09 & FIG 4E-2 AND THE NCHRP PUBLICATION, "ACCESSIBLE PEDESTRIAN SIGNALS: GUIDE TO BEST PRACTICE". IF NOT MET, THE CONTRACTOR IS TO STOP WORK ON PUSHBUTTON LOCATIONS UNTIL A DESIGN WAIVER IS OBTAINED, APPROVED BY THE DIRECTOR, OFFICE OF TRAFFIC AND SAFETY.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR DELIVERING APS EQUIPMENT FOR PROGRAMING TO MD-SHA SIGNAL SHOP.
- ALL UNUSED CABLE SHALL BE REMOVED.

## Phase Chart



PHASE 1 AND 5	R4G	R4G	R	R4G	R4G	R	R	R	R	R	R	R	R	DW	DW	
1 AND 5 CHANGE	CONTROLLER MAY CHANGE TO PHASE 1 AND 6, 2 AND 5, OR 2 AND 6															
PHASE 1 AND 6	+GG	+GG	G	R	R	R	R	R	R	R	R	R	R	DW	DW	
1 CHANGE	+YG	+YG	G	R	R	R	R	R	R	R	R	R	R	DW	DW	
PHASE 2 AND 5	R	R	R	+GG	+GG	G	R	R	R	R	R	R	R	DW	DW	
5 CHANGE	R	R	R	+YG	+YG	G	R	R	R	R	R	R	R	DW	DW	
PHASE 2 AND 6	G	G	G	G	G	G	R	R	R	R	R	R	R	DW	DW	
2 AND 6 CHANGE	Y	Y	Y	Y	Y	Y	R	R	R	R	R	R	R	DW	DW	
PHASE 3	R	R	R	R	R	R	+GG	+GG	G	R	R	R	R	DW	DW	
3 CHANGE	R	R	R	R	R	R	Y	Y	Y	R	R	R	R	DW	DW	
PHASE 4	R	R	R	R	R	R	R	R	R	+GG	+GG	G	DW	DW		
4 CHANGE	R	R	R	R	R	R	R	R	R	R	Y	Y	Y	DW	DW	
PHASE 4 ALT	R	R	R	R	R	R	R	R	R	R	+GG	+GG	G	W	W	
PED CLEARANCE	R	R	R	R	R	R	R	R	R	R	+GG	+GG	G	FLOW	FLOW	
PHASE 4 ALT CHANGE	R	R	R	R	R	R	R	R	R	R	Y	Y	Y	DW	DW	
FLASHING OPERATION	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R	FL/R	FL/R	FL/R	DARK	DARK	

## Wiring Diagram



**SHA**

STATE OF MARYLAND  
DEPARTMENT OF TRANSPORTATION  
STATE HIGHWAY ADMINISTRATION  
OFFICE OF TRAFFIC & SAFETY  
TRAFFIC ENGINEERING DESIGN DIVISION

MD 99 (Old Frederick Rd)  
at St. John's Lane/Mt. Hebron High School

### GENERAL INFORMATION PLAN

SCALE: \_\_\_\_\_ N.T.S. DATE: August 28, 2009 CONTRACT NO. \_\_\_\_\_ BW990M82

DESIGNED BY: John Dimrdorfer COUNTY: Howard  
DRAWN BY: Sarah Dimrdorfer LOGMILE: 13009906.56  
CHECKED BY: CSW TMS NO. I-458  
F.A.P. NO. N/A TOD NO. \_\_\_\_\_

TS NO. 24180-GI DRAWING **GI-02** OF 02 SHEET NO. 2 OF 5

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